

2015 Consumer Confidence Report

Water System Name: Kern Oil & Refining Co. Report Date: June 14, 2016

We test the drinking water quality for many constituents as required by state and federal regulations. This report shows the results of our monitoring for the period of January 1 - December 31, 2015 and may include earlier monitoring data.

Este informe contiene información muy importante sobre su agua potable. Tradúzcalo ó hable con alguien que lo entienda bien.

Type of water source(s) in use: Groundwater Supply from a Well

Name & general location of source(s): Well #2 (PS Code 1502771-002), 7724 East Panama Lane, Bakersfield, Ca. 93307, Approximately 270' North of the Flare

Drinking Water Source Assessment information: A source water assessment was conducted for Well#2 in December 2001. The source is considered vulnerable to the following activities: chemical/petroleum pipelines, fleet/truck/bus terminal, and machine shops. A complete copy of the assessment may be requested by contacting Chris Hinds at (661) 845-0761.

Time and place of regularly scheduled board meetings for public participation: Public notification is provided by Kern Oil's EHS Department and is posted in the public/Kern Employee gathering places throughout the refinery (lunch rooms, kitchen, and mail room bulletin board...etc.). Any comments/suggestions regarding the safety and quality of Kern Oil's potable water can be directed to the EHS Department (see contact below).

For more information, contact: Chris Hinds Phone: (661) 845-0761

TERMS USED IN THIS REPORT

Maximum Contaminant Level (MCL): The highest level of a contaminant that is allowed in drinking water. Primary MCLs are set as close to the PHGs (or MCLGs) as is economically and technologically feasible. Secondary MCLs are set to protect the odor, taste, and appearance of drinking water.

Maximum Contaminant Level Goal (MCLG): The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs are set by the U.S. Environmental Protection Agency (USEPA).

Public Health Goal (PHG): The level of a contaminant in drinking water below which there is no known or expected risk to health. PHGs are set by the California Environmental Protection Agency.

Maximum Residual Disinfectant Level (MRDL): The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

Maximum Residual Disinfectant Level Goal (MRDLG): The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

Primary Drinking Water Standards (PDWS): MCLs and MRDLs for contaminants that affect health along with their monitoring and reporting requirements, and water treatment requirements.

Secondary Drinking Water Standards (SDWS): MCLs for contaminants that affect taste, odor, or appearance of the drinking water. Contaminants with SDWSs do not affect the health at the MCL levels.

Treatment Technique (TT): A required process intended to reduce the level of a contaminant in drinking water.

Regulatory Action Level (AL): The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.

Variances and Exemptions: State Board permission to exceed an MCL or not comply with a treatment technique under certain conditions.

ND: not detectable at testing limit

ppm: parts per million or milligrams per liter (mg/L)

ppb: parts per billion or micrograms per liter (µg/L)

ppt: parts per trillion or nanograms per liter (ng/L)

ppq: parts per quadrillion or picogram per liter (pg/L)

pCi/L: picocuries per liter (a measure of radiation)

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally-occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

Contaminants that may be present in source water include:

- *Microbial contaminants*, such as viruses and bacteria, that may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- *Inorganic contaminants*, such as salts and metals, that can be naturally-occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.
- *Pesticides and herbicides*, that may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.
- *Organic chemical contaminants*, including synthetic and volatile organic chemicals, that are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, agricultural application, and septic systems.
- *Radioactive contaminants*, that can be naturally-occurring or be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, the USEPA and the State Water Resources Control Board (State Board) prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. State Board regulations also establish limits for contaminants in bottled water that provide the same protection for public health.

Tables 1, 2, 3, 4, and 5 list all of the drinking water contaminants that were detected during the most recent sampling for the constituent. The presence of these contaminants in the water does not necessarily indicate that the water poses a health risk. The State Board allows us to monitor for certain contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of the data, though representative of the water quality, are more than one year old.

TABLE 1 – SAMPLING RESULTS SHOWING THE DETECTION OF COLIFORM BACTERIA

Microbiological Contaminants (complete if bacteria detected)	Highest No. of Detections	No. of months in violation	MCL	MCLG	Typical Source of Bacteria
Total Coliform Bacteria	(In a mo.)	0	More than 1 sample in a month with a detection	0	Naturally present in the environment
Fecal Coliform or <i>E. coli</i>	(In the year)	0	A routine sample and a repeat sample detect total coliform and either sample also detects fecal coliform or <i>E. coli</i>	0	Human and animal fecal waste

TABLE 2 – SAMPLING RESULTS SHOWING THE DETECTION OF LEAD AND COPPER

Lead and Copper (complete if lead or copper detected in the last sample set)	Sample Date	No. of samples collected	90 th percentile level detected	No. sites exceeding AL	AL	PHG	Typical Source of Contaminant
Lead (ppb)	8/14/2013	6	0.00045	0	15	0.2	Internal corrosion of household water plumbing systems; discharges from industrial manufacturers; erosion of natural deposits.
Copper (ppm)	8/14/2013	6	0.120	0	1.3	0.3	Internal corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives.

TABLE 3 – SAMPLING RESULTS FOR SODIUM AND HARDNESS

Chemical or Constituent (and reporting units)	Sample Date	Level Detected	Range of Detections	MCL	PHG (MCLG)	Typical Source of Contaminant
Sodium (ppm)	5/30/2013	60	N/A	none	none	Salt present in the water and is generally naturally occurring.

Hardness (ppm)	5/30/2013	140	N/A	none	none	Sum of polyvalent cations present in the water, generally magnesium and calcium, and are usually naturally occurring.
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*Any violation of an MCL or AL is asterisked. Additional information regarding the violation is provided later in this report.

TABLE 4 – DETECTION OF CONTAMINANTS WITH A PRIMARY DRINKING WATER STANDARD

INORGANIC CONTAMINANTS						
Chemical or Constituent (and reporting units)	Sample Date	Level Detected	Range of Detections	MCL [MRDL]	PHG (MCL G) [MRDL G]	Typical Source of Contaminant
Aluminum (ppb)	6/12/2014	50	N/A	1000	600	Erosion of natural deposits; residue from some surface water treatment process..
Antimony (ppb)	6/12/2014	2.00	N/A	6.00	20	Discharge from petroleum refineries; fire retardants; ceramics; electronics; solder.
Arsenic (ppb)	6/12/2014	13	N/A	10.00	0.004	Erosion of natural deposits; runoff from orchards; glass and electronics production wastes.
Barium (ppb)	6/12/2014	130	N/A	1000	2000	Discharge of oil drilling wastes and from metal refineries; erosion of natural deposits.
Beryllium (ppb)	6/12/2014	1	N/A	4.00	1.00	Discharge from metal refineries, coal-burning factories, and electrical, aerospace, and defense industries.
Cadmium (ppb)	6/12/2014	1	N/A	5.00	0.04	Internal corrosion of galvanized pipes; erosion of natural deposits; discharge from electroplating and industrial chemical factories, and metal refineries; runoff from waste batteries and paints.
Chromium (Total Chromium) (ppb)	6/12/2014	50	N/A	50	100	Discharge from steel and pulp mills and chrome plating; erosion of natural deposits.
Hexavalent Chromium (Chrome 6) (ppb)	11/14/2013	0.58	N/A	10	0.02	Discharge from electroplating factories, leather tanneries, wood preservation, chemical synthesis, refractory production, and textile manufacturing facilities; erosion of natural deposits.
Fluoride (ppm)	6/16/2014	0.24	0.18-0.28	2.00	1.00	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories.
Chlorine (chlorine residual levels) (ppm)	Twice weekly during 2015	N/A	0.0-2.2	4.0	4.0	Some people who use water containing chlorine well in excess of the MRDL could experience irritating effects to their eyes and nose. Some people who drink water containing chlorine well in excess of the MRDL could experience stomach discomfort.
Mercury (ppb)	6/12/2014	0.200	N/A	2.00	1.2	Erosion of natural deposits; discharge from refineries and factories; runoff from landfills and cropland.
Nickel (ppb)	6/12/2014	10	N/A	100	12	Erosion of natural deposits; discharge from metal factories.

Perchlorate (ppb)	12/31/2014	4.00	N/A	6.00	6.00	Perchlorate is an inorganic chemical used in solid rocket propellant, fireworks, explosives, flares, matches, and a variety of industries. It usually gets into drinking water as a result of environmental contamination from historic aerospace or other industrial operations that used or use, store, or dispose of perchlorate and its salts.
Selenium (ppb)	6/12/2014	2.00	N/A	50	30	Selenium is an essential nutrient. However, some people who drink water containing selenium in excess of the MCL over many years may experience hair or fingernail losses, numbness in fingers or toes, or circulation system problems.
Thallium (ppb)	6/12/2014	1.00	N/A	2	0.1	Leaching from ore-processing sites; discharge from electronics, glass, and drug factories.
Haloacetic Acids (HAA5s) (ppb)	12/31/2014	1.3	N/A	60	N/A	Some people who drink water containing haloacetic acids in excess of the MCL over many years may have an increased risk of getting cancer.
TTHMs (Total Trihalomethanes) (ppb)	12/31/2014	11	N/A	80	N/A	Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience liver, kidney, or central nervous system problems, and may have an increased risk of getting cancer.
Nitrate (ppm)	02/03/2016	0.31	N/A	10	45	Runoff and leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits.
Nitrite (ppm)	02/03/2016	<0.050	N/A	1	1	Runoff and leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits.
Gross Alpha (pCi/L)	12/31/2014	2.76	N/A	15	(0)	Erosion of natural deposits.

TABLE 5 – DETECTION OF CONTAMINANTS WITH A SECONDARY DRINKING WATER STANDARD

Chemical or Constituent (and reporting units)	Sample Date	Level Detected	Range of Detections	MCL	PHG (MCLG)	Typical Source of Contaminant
Total Dissolved Solids (TDS) (ppm)	5/31/2013	240	N/A	1000	N/A	Runoff/leaching from natural deposits.
Conductivity (umhos/cm)	6/3/2013	514	N/A	900	N/A	Runoff/leaching from natural deposits.
Chloride (Cl) (ppm)	5/31/2013	15	N/A	250	N/A	Runoff/leaching from natural deposits; seawater influence.
Sulfate (ppm)	5/31/2013	38	N/A	250	N/A	Runoff/leaching from natural deposit; industrial wastes
Iron (ppm)	6/3/2013	51	N/A	0.3	N/A	Runoff/leaching from natural deposits; industrial wastes
Odor -Threshold	5/31/2013	No Odor	N/A	3 TON (Threshold Odor Number)	N/A	Naturally-occurring organic materials.

*Any violation of an MCL, MRDL, or TT is asterisked. Additional information regarding the violation is provided later in this report.

Additional General Information on Drinking Water

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the USEPA's Safe Drinking Water Hotline (1-800-426-4791).

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. USEPA/Centers for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline (1-800-426-4791).

Lead-Specific Language for Community Water Systems: If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. Kern Oil & Refining Co. is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. [Optional: If you do so, you may wish to collect the flushed water and reuse it for another beneficial purpose, such as watering plants.] If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at <http://www.epa.gov/lead>.

Summary Information for Violation of a MCL, MRDL, AL, TT, or Monitoring and Reporting Requirement

VIOLATION OF A MCL, MRDL, AL, TT, OR MONITORING AND REPORTING REQUIREMENT				
Violation	Explanation	Duration	Actions Taken to Correct the Violation	Health Effects Language
Failed to test for Nitrate (NO ₃ -) from June 2015 to February 3, 2016 (Monitoring & Reporting)	See Below	8 Months, 3 days	Collected the required sample and sent the results to the state	Runoff and leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits.

Explanation

Kern Oil & Refining Co. (Kern) is required to monitor your drinking water for specific contaminants on a regular basis. Results of regular monitoring are an indicator of whether or not our drinking water meets health standards. From June

30th 2015 – February 3rd 2016 Kern did not test for Nitrates (NO_3^-) in our source well 02 and therefore cannot be sure if the drinking water had concentrations of nitrate during this period of time.

Once this testing discrepancy was discovered Kern EHS Staff immediately collected the required sample and submitted it to an ELAP certified lab for analysis. The result from this sample was 0.31 ppm which is about 3.1% of the allowable limit of 10 ppm. This is significantly less than the regulatory limit set by State and EPA authorities.

Summary Information for Operating Under a Variance or Exemption

Regulations allow Kern to monitor for some contaminants less than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year. Some of the data used in this report are more than one year old. Sample dates for each chemical or constituents are provided in the Tables. Microbiological samples for Coliform Bacteria are taken every 30 days. Arsenic samples are taken every 30 days.

NOTE: Primary drinking water standards are mandatory health-related standards. Secondary standards are based on the aesthetic quality of water. Both types of standards are established by the California Environmental Protection Agency and the U.S. Environmental Protection Agency.

ARSENIC: While Kern's drinking water meets the federal and state standard for arsenic, it does contain low levels of arsenic. The arsenic standard balances the current understanding of arsenic's possible health effects against the cost of removing arsenic from drinking water. The U.S. Environmental Protection Agency continues to research the health effects of low levels of arsenic, which is a mineral known to cause cancer in humans at high concentrations and is linked to other health effects such as skin damage and circulatory problems. Kern has installed a treatment equipment system to remove Arsenic to below the MCL.

If you have questions concerning the water supply, you should contact Melinda Hicks, EHS Manager or Chris Hinds, Environmental Advisor (661-845-0761), the EPA's Safe Drinking Water Hotline at 1-800-426-4791, or the State Board at 1-559-447-3300.